SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Water Use Permitting

Big Cypress Basin Board

Naples, FL

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sfwmd.gov

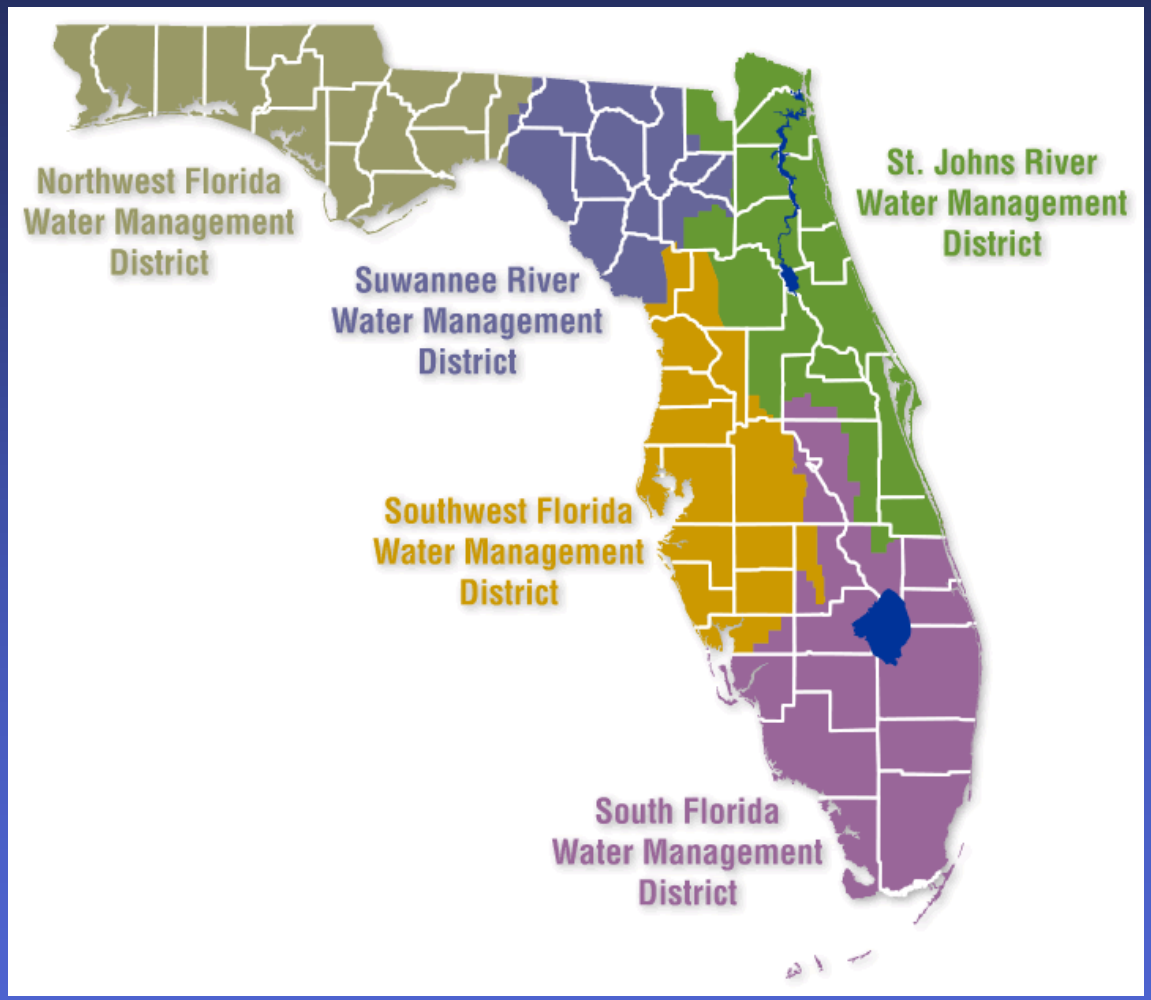
Florida Water Law

- Severe Droughts (1970-1971)
- Model Water Code
  - Water is a public resource
  - Rights to water established by permit
  - Certainty of Supply for all users

Water Resources Act of 1972

- Created Water Management Districts
- Broad Authorities
- 4 Core Mission Areas
- Endorses regional water management & insulation from "local" interests
- Consumptive Use Permit Program
  - Exclusive District authority
  - Part II, Chapter 373, F.S.

WMD Boundaries



Excerpted from St. Johns River WMD Web Page

sfwmd.gov

Water Management District Core Missions

- Water Quantity – Flood Protection
- Water Quantity – Water Supply
- Water Quality – Environmental Protection
- Water Quality – Environmental Restoration

Water Resource Protection Tools

- **Minimum Flows and Levels**

  Identify point of significant harm & develop prevention/recovery plan

- **Reservations**

  Set aside water for protection of fish and wildlife or public health and safety

Water Resource Protection Tools

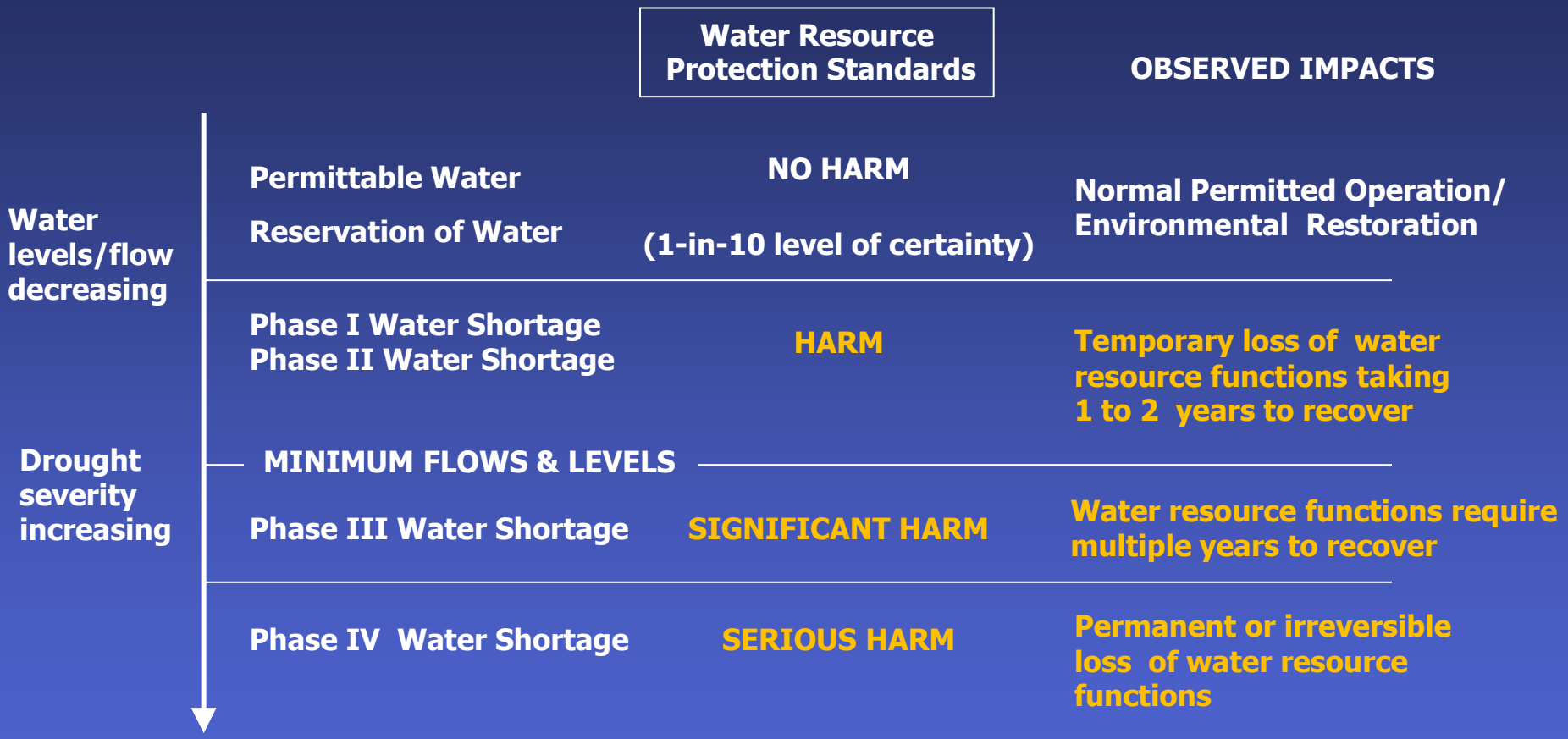
- **Water Shortage Program**

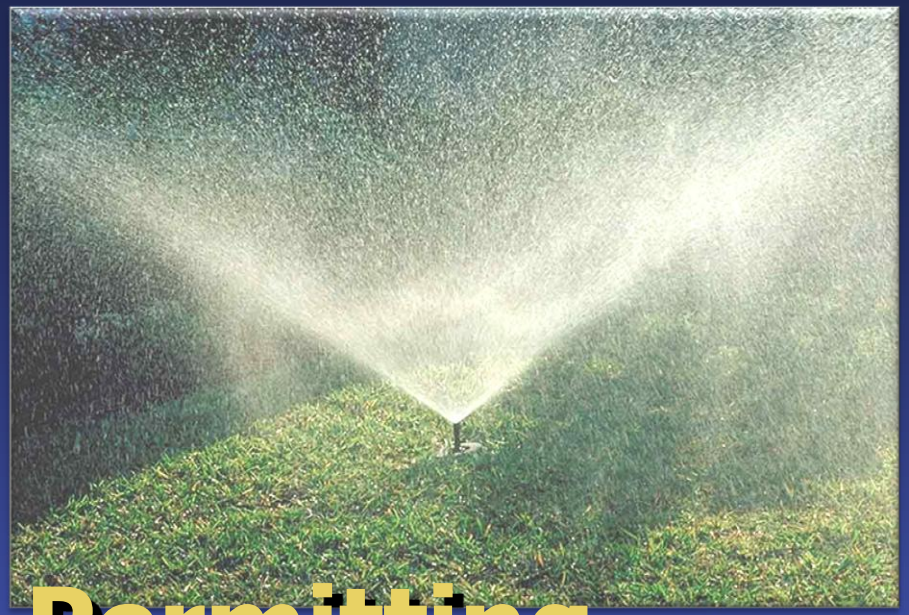
  Prevent serious harm to the water resources - temporarily restricts CUP level of usage during droughts.

- **Water Use Permitting**

  Prevent harm to the water resources - specific resource protection criteria implemented by rule

How do these protection tools relate?





Water Use Permitting

Water Use Permitting Authority

- Chapter 373, Florida Statutes
- Chapter 40E-1, Florida Administrative Code (F.A.C.) General and Procedural
- 40E-2, F.A.C. Consumptive Use
- 40E-3, F.A.C. Water Wells
- 40E-20, F.A.C. General Water Use Permits
- Water Use Basis of Review (40E-2 and 40E-20)

Permits Required

Chapter 40E-1.602, F.A.C. mandates that, with the exception of exemptions, all water use from both groundwater and/or surface water requires a water use permit prior to the use or withdrawal of water.

The type of use is the qualifying factor, not the amount of use or the size of the withdrawal facilities.

Unless exempted you have no legal right to water and are subject to civil penalties.

Permits Required

- Must have a permit before you may use or withdraw water
- Unless exempt, you have no legal right to water & are subject to civil penalties
- Exemptions (40E-2.051):
  - Domestic use
  - Seawater
  - Water for fire protection
  - Reclaimed water*

Conditions for Permit Issuance: "Three-pronged" Test

1. Is a reasonable-beneficial use as defined in §373.019(4);
2. Will not interfere with any presently existing legal use of water; &
3. Is consistent with the public interest.

What You Need to Know About Water Use Permits:

- Source Classification
- Use Classification
- Types of Permits
- Demand vs. Supply
- Resource Protection Evaluation
- Content of Permit

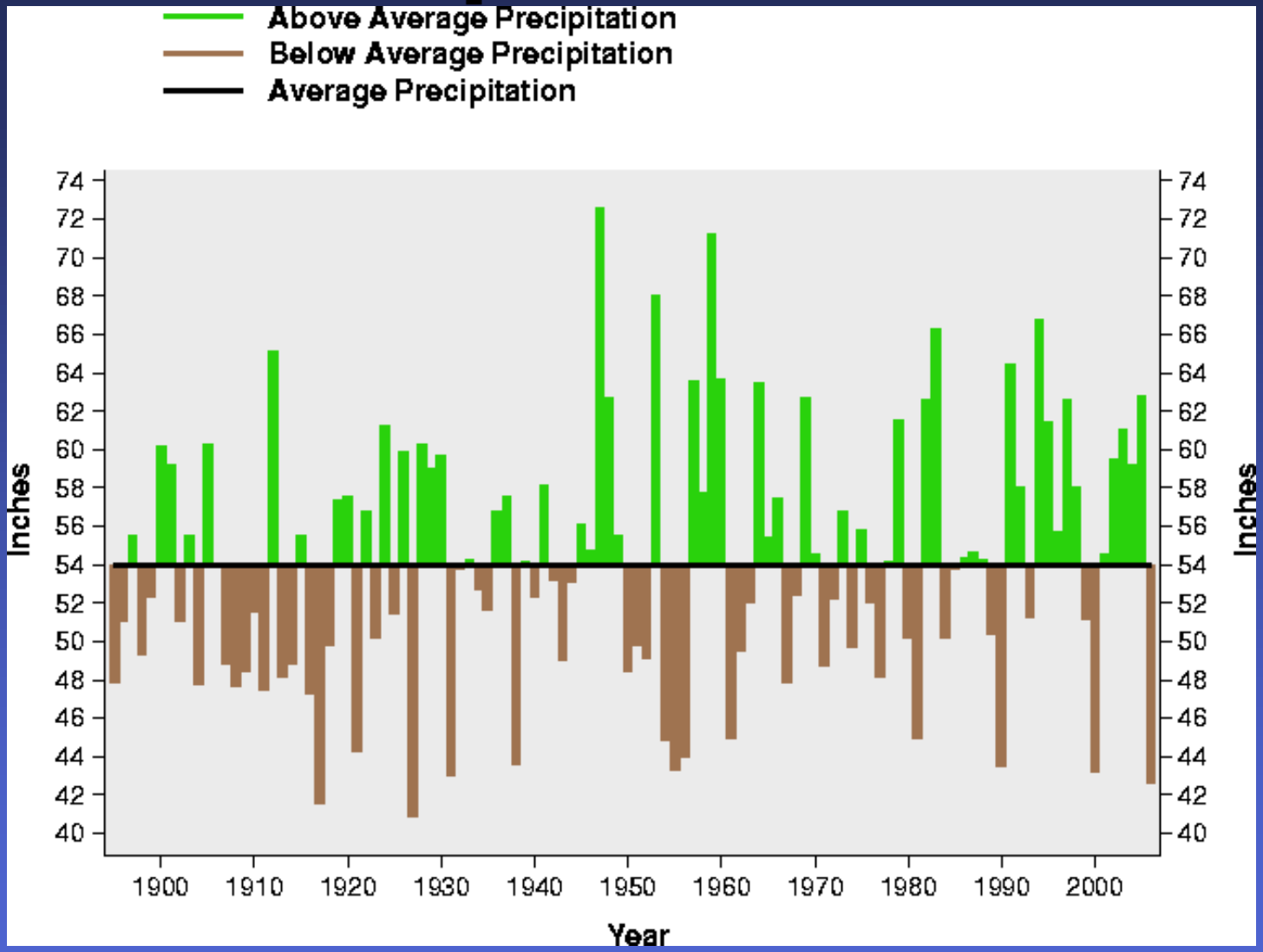
Source Classification

Surface Water

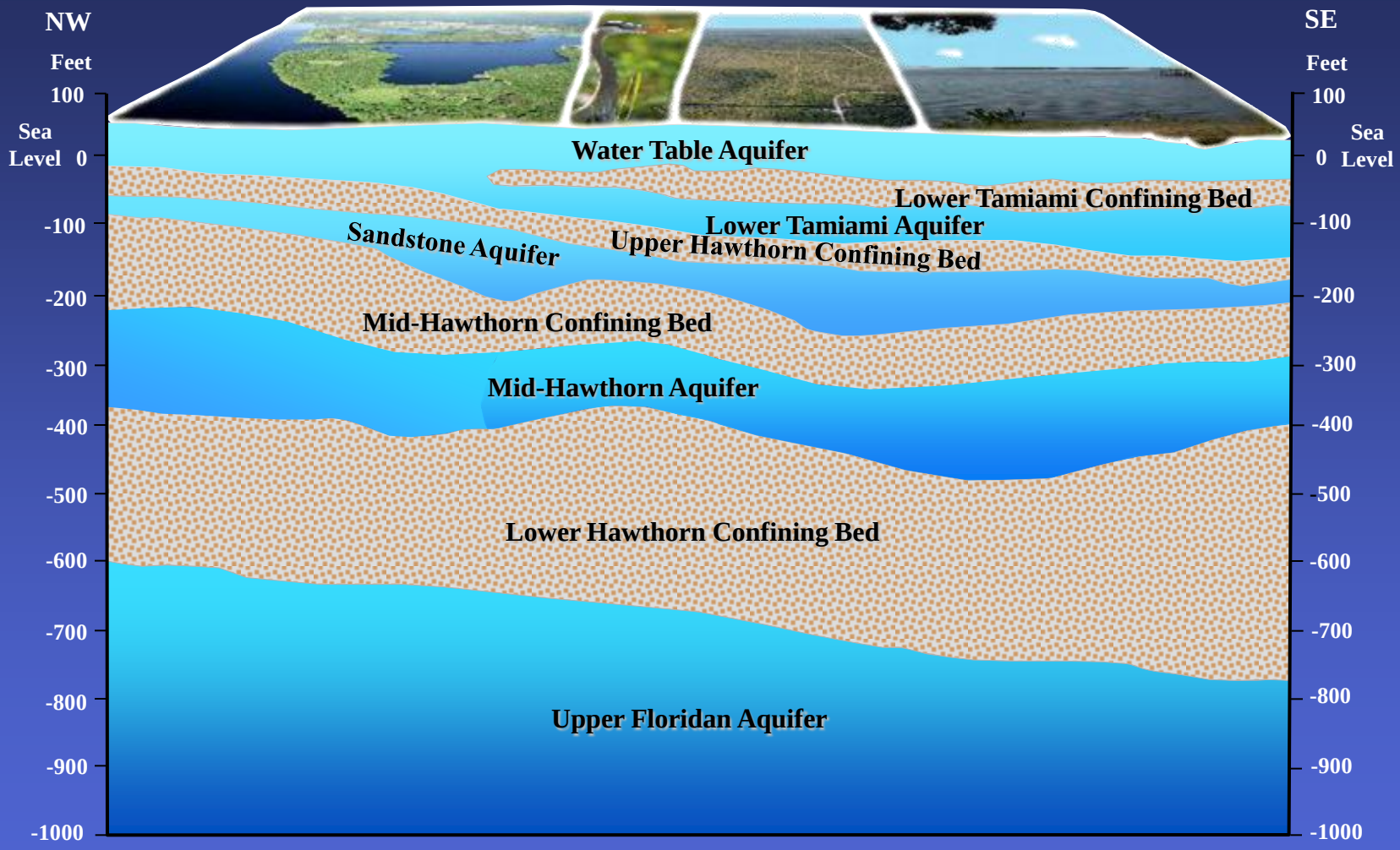
Groundwater

Source:groundwater.org

Annual Precipitation – Statewide



Generalized Cross-Section of the Lower West Coast Aquifers (NW to SE)



Source Classifications

- **Surface Water**
  - Canals, natural lakes, retention areas, on-site lakes, and borrow pits
- **Ground Water**
  - By specific aquifers (e.g. Floridan Aquifer System, Lower Tamiami, Mid-Hawthorn, Sandstone, etc.)
- **Fresh vs Saline Water**
  - Saline > 250 mg/L Chlorides

Water Use Classes

- Irrigation (Golf Course, Agricultural, Nursery, Landscape)
- Dewatering / Mining
- Public Water Supply
- Diversion & Impoundment
- Livestock
- Aquaculture
- Industrial

Water Use Permit Types

General Permits

- Minor – Less than 3 MGM
- Major – 3 MGM to 15 MGM
- Short Term Dewatering

Individual Permits

- Over 15 MGM, or
- Projects that do not meet the Criteria of Chapter 40E-20, F.A.C., General Permits

Water Demand Calculations

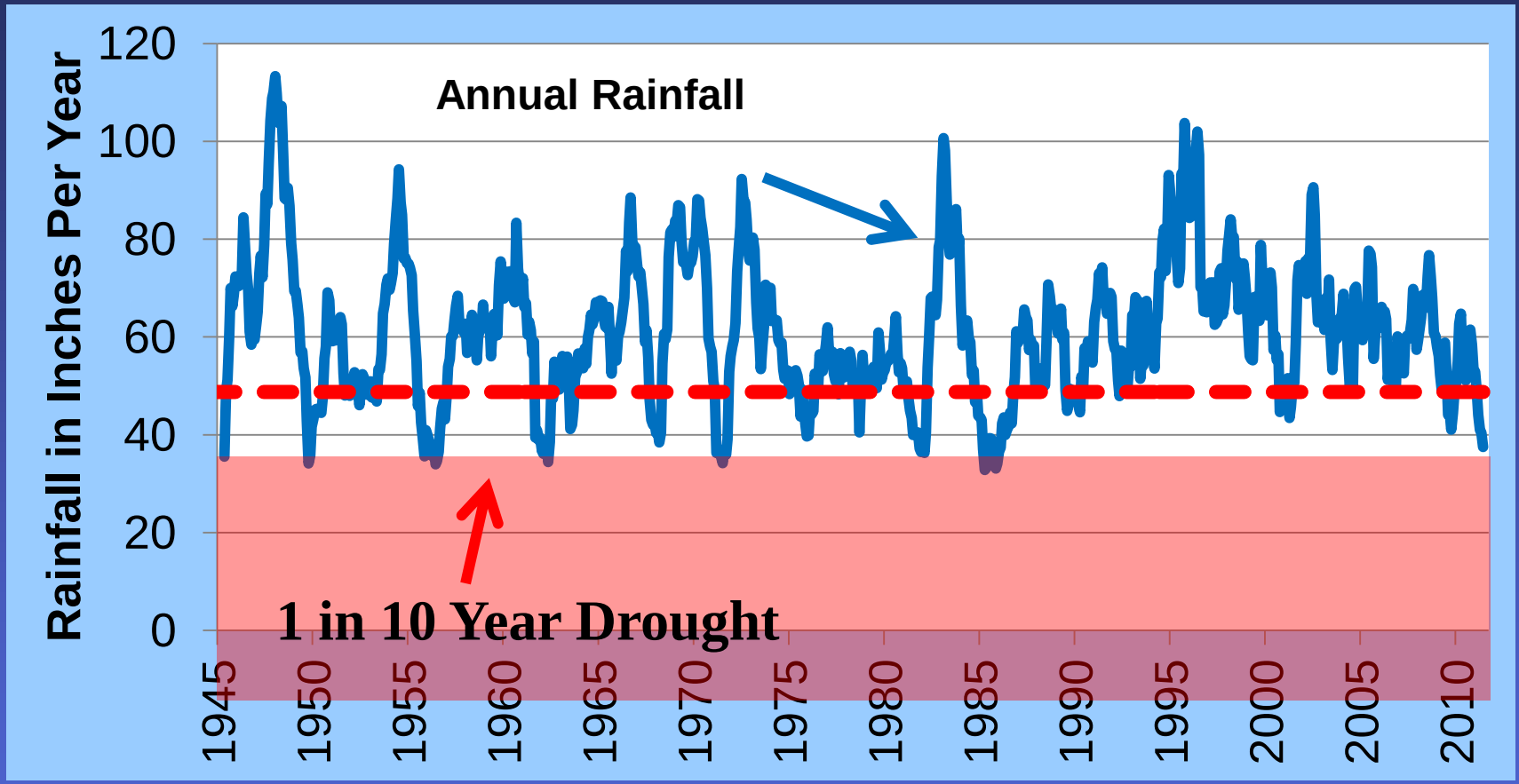
Use Type	Calculation Method
Industrial	Water balance
Public Water Supply	Population & per capita use rate
Livestock	Number of animals * daily volume
Diversion & Impoundment	Maintenance of canal elevations
Irrigation	Crop needs (Modified Blaney-Criddle)

Irrigation Demand: Blaney-Criddle Equation

$$U=(0.0173t - 0.314) \times Kc \sum_{1}^{m} p\ t/100$$

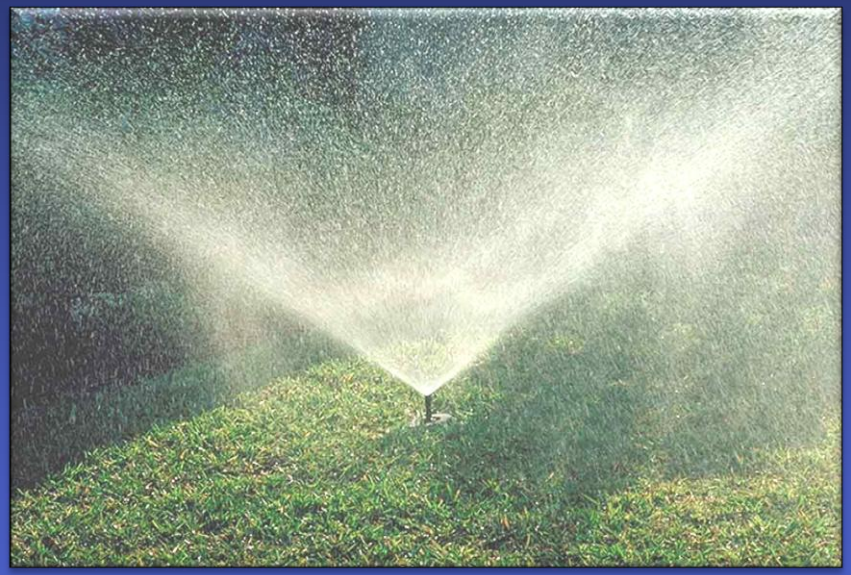
- Effective Rainfall (1-in-10 drought return frequency)
- Net Depth of Application ("Soil Type")
- Crop Type
- Irrigated Acreage
- Irrigation System Efficiency (e.g. sprinkler, micro-jet, etc.)

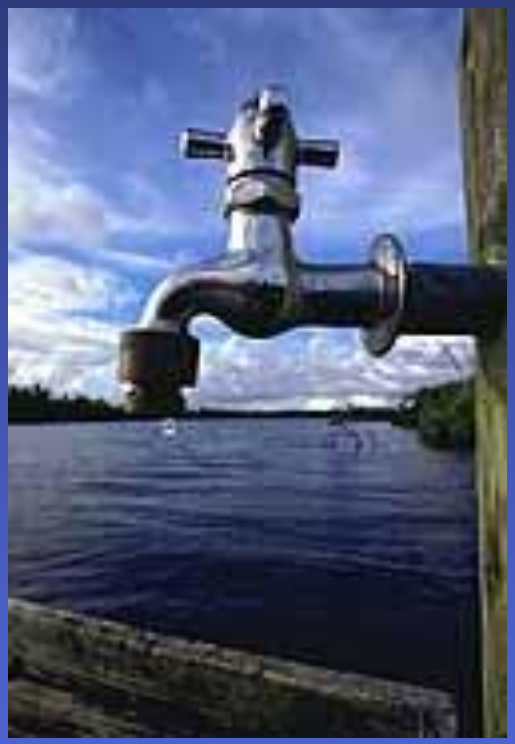
1-in-10 Rainfall



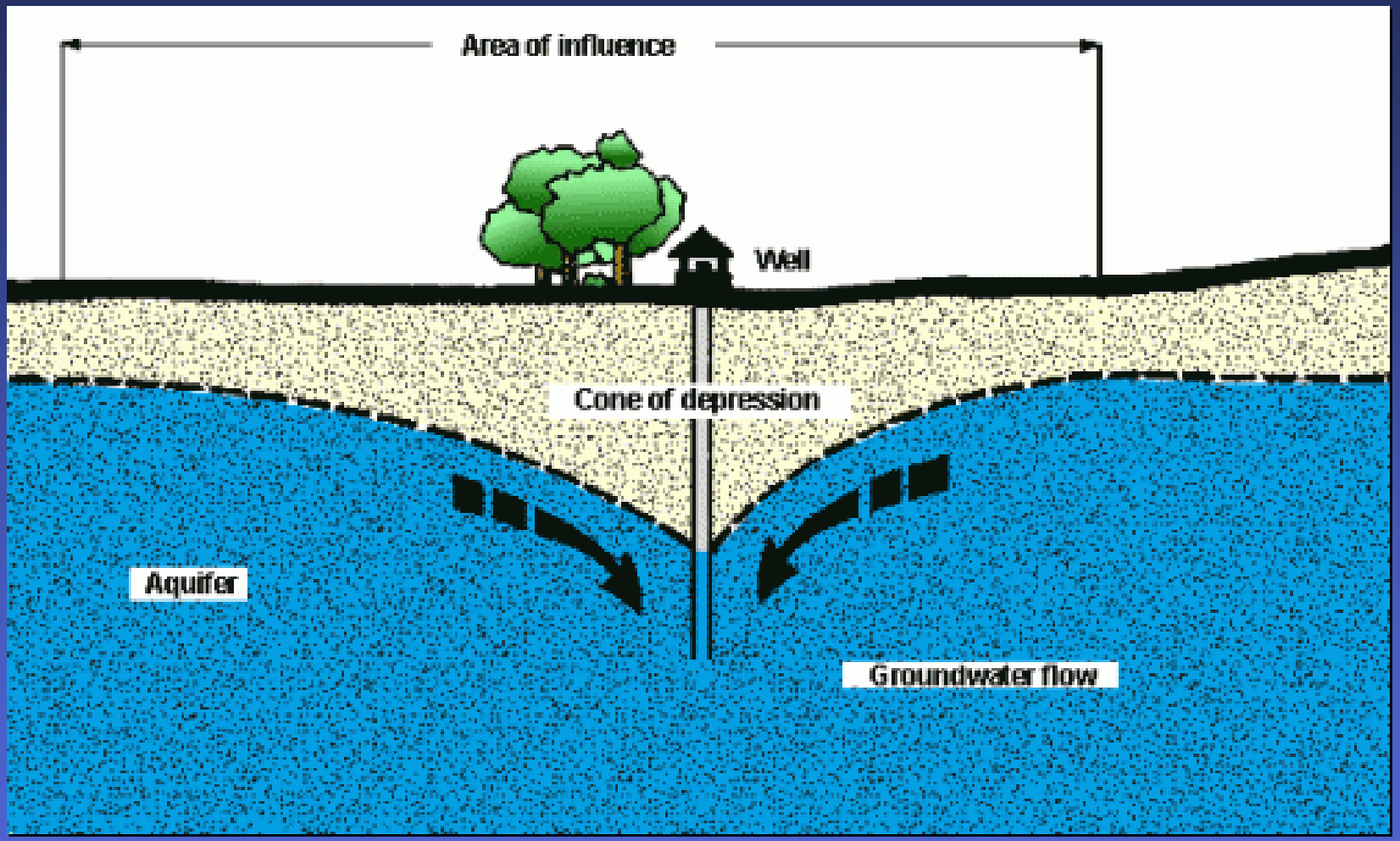
Application Review and Analysis

Demand vs. Supply





Resource Impact Assessment



Source: www.groundwater.oregonstate.edu

Resource Impact Analysis

- Water Resource Availability
- Existing Legal Users
- Existing Domestic Users
- Saline Intrusion/Upconing
- Wetland Environments
- Movement of Pollution
- Minimum Flows & Levels

Resource Impact Analysis

- Use Historical Monitoring Data (Renewals)
- Groundwater Modeling (New or Increased Use)
  - Simple Analytical
  - Complex Numerical - calibrated

Water Resource Availability

Groundwater Resource Availability
New or Increased Use of Water From a Confined Aquifer With a Maximum Developable Limit

Application Number: **Source: Mid-Hawthorn aquifer**

Project:

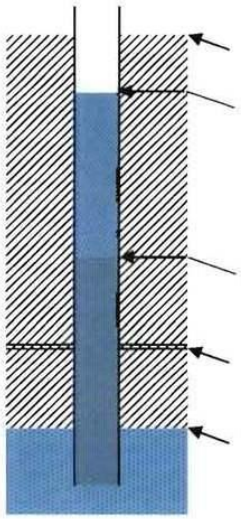


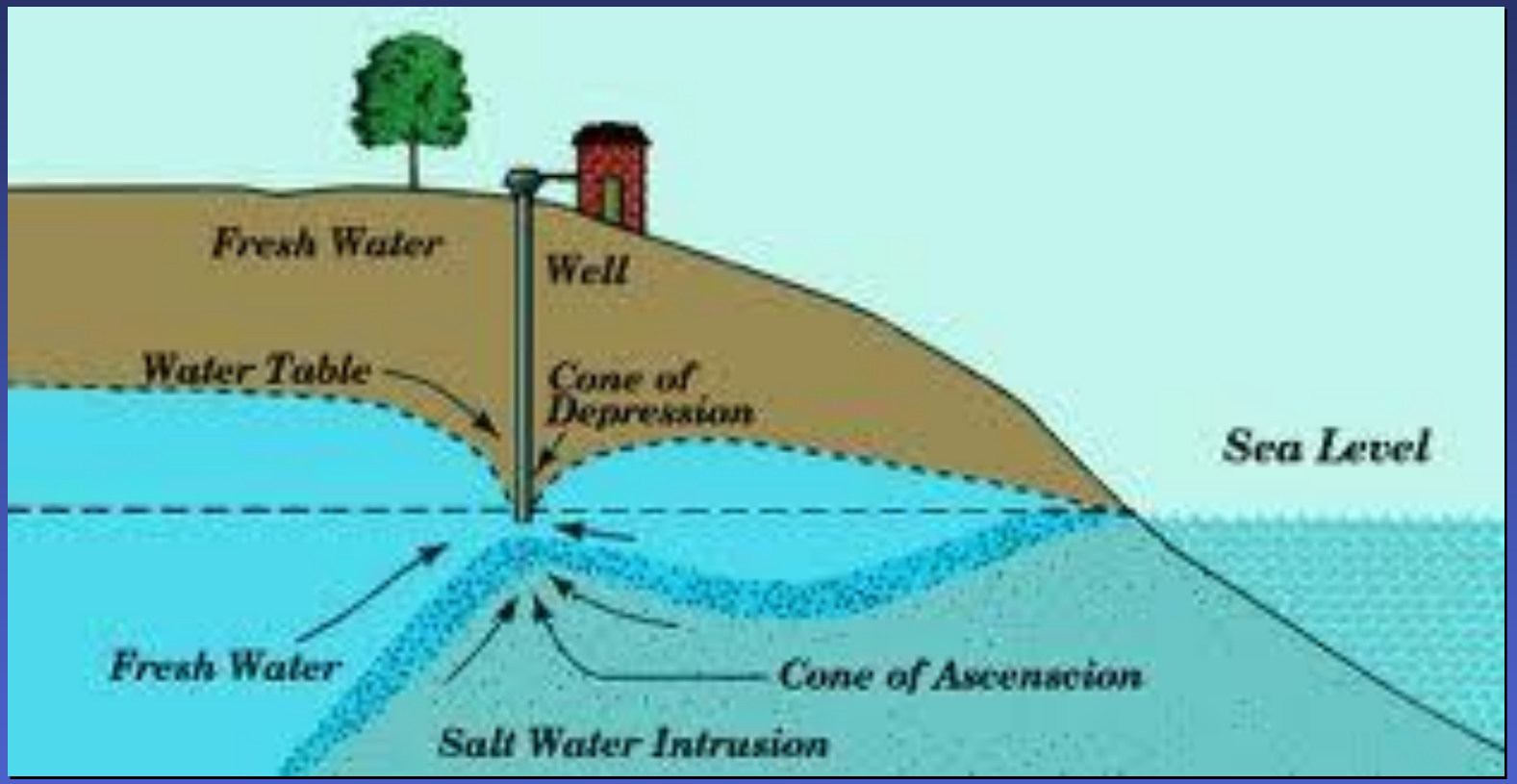
Illustration not to scale

Reference Item	Reference Value, Units	Information Source
Land Surface Elevation	10 feet NGVD	USGS Topo Map
Water Level	35 feet NGVD	USGS Well C-974 Lowest potentiometric elevation Location: 10 miles northeast of the project
Additional Drawdown	5 feet	
Maximum Developable Limit	20 feet above top of aquifer	BOR Section 3.2.4
Top of Aquifer	-290 feet NGVD	SFWMD TP 86-1
Remaining Head Above MDL	**300 feet**	

Existing Legal and Domestic Users

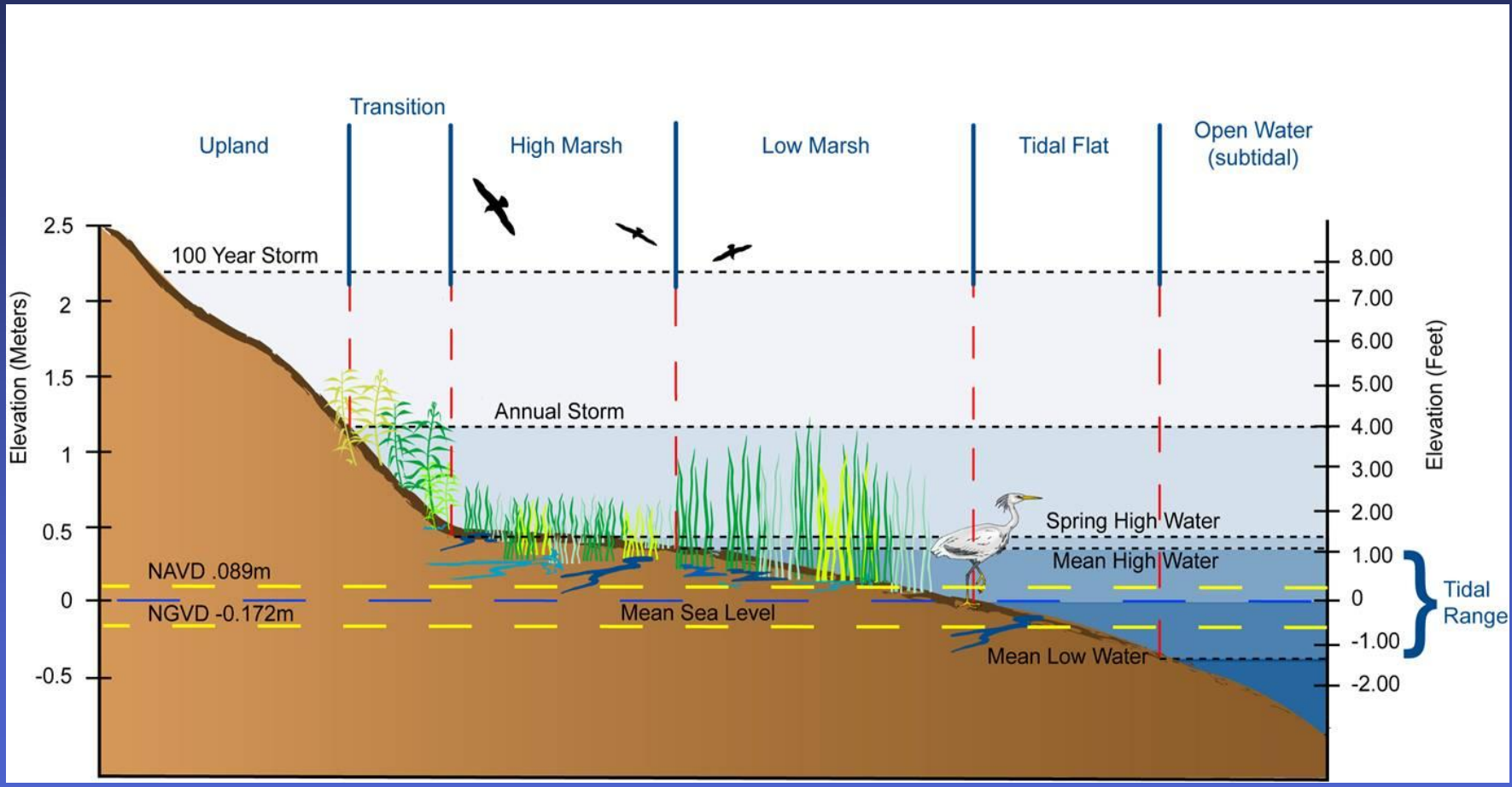
- Cannot cause interferences
  - Quantity (dry well)
  - Quality (saline water)

Saline Water Intrusion



Source:www.earthsci.org

Wetlands



Source: maps.risingsea.net

Groundwater Contamination

Source:www.atsdr.cdc.gov

Other Required Information

- Facilities
- Legal Control
  - deed, tax record, lease agreement
- Individual & Major General Permits:
  - Water Conservation Plan
  - Reclaimed Water Availability
  - Water Use Accounting (calibration)

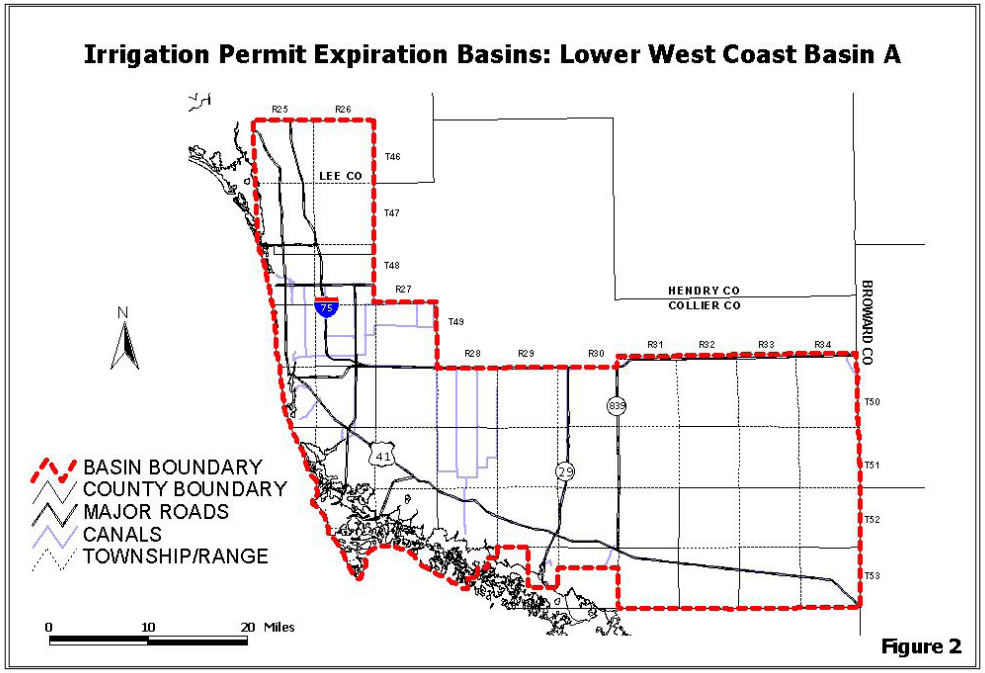
Contents of Water Use Permit

- Allocation
  - Annual allocation
  - Maximum month
- Duration up to 20-years
- Withdrawal facilities
- Limiting conditions

Irrigation Basin Renewals

- Lower West Coast Basin A
- February 28, 2005 Expiration Date

Received and processed 144 Renewal Applications



Permit Renewals

- Currently 16 active applications for renewal in Collier County
  - 8 are General permits (< 0.5 MGD)
  - 8 are Individual permits (>0.5 MGD)

Permit Renewals

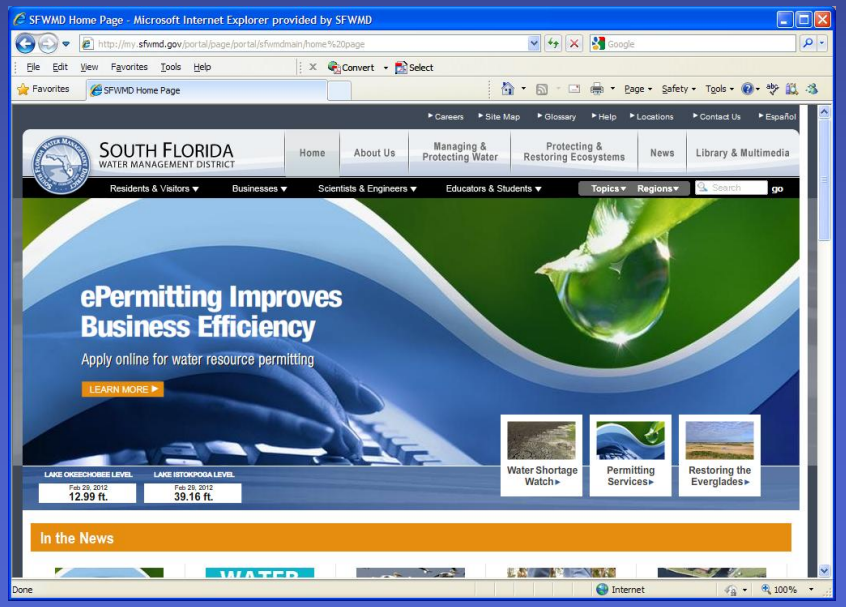
- Still must meet the three prong test (conditions of issuance)
- May rely on historic information if the project was operated as permitted during a 1-in-10 drought condition with no observed harm

Renewal Duration

- 20 year duration allowable for historically irrigated and permitted acreage or demand
- New and increased allocations get 5 year duration from Sources of Limited Availability (all LWC aquifers except Lower Hawthorn or Floridan)
- Permit duration may be bifurcated to reflect portion being renewed vs. portion permitted but not constructed/operated

SFWMD Website

- Permitting and Regulatory
- Information Available
  - Water Use Permitting
  - Water Use Rules and Rulemaking
  - Application Forms
  - E-Permitting



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LWC Water Use Contacts

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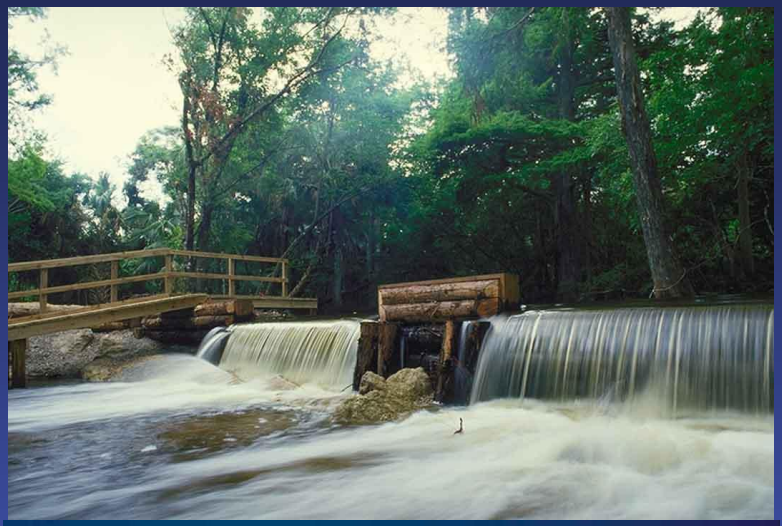

Thank You

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